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	APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
	10/796,481	03/09/2004	Samir F. Bassily	PD-01-439	2295
22462 759		590 06/03/2005		EXAMINER	
	GATES & COOPER LLP			LE, HOANGANH T	
	HOWARD HUGHES CENTER 6701 CENTER DRIVE WEST, SUITE 1050		1050	ART UNIT	PAPER NUMBER
			2 1030		711. DK 110.11. DK
	LOS ANGELE	S, CA 90045		2821	

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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	Application No.	Applicant(s)			
	10/796,481	BASSILY, SAMIR F.			
Office Action Summary	Examiner	Art Unit			
	HoangAnh T. Le	2821			
The MAILING DATE of this communication app Period for Reply	pears on the cover sheet	with the correspondence address	**		
A SHORTENED STATUTORY PERIOD FOR REPL' THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.1 after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply - If NO period for reply is specified above, the maximum statutory period of the period for reply within the set or extended period for reply will, by statute Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	36(a). In no event, however, may y within the statutory minimum of the will apply and will expire SIX (6) Most, cause the application to become	a reply be timely filed hirty (30) days will be considered timely. DNTHS from the mailing date of this communic. ABANDONED (35 U.S.C. § 133).	ation.		
Status					
1) Responsive to communication(s) filed on	<u>_</u> .				
,—	action is non-final.				
3) Since this application is in condition for allowal			s is		
closed in accordance with the practice under E	ex parte Quayle, 1935 C.	.D. 11, 453 O.G. 213.			
Disposition of Claims					
4) Claim(s) 1-22 is/are pending in the application					
4a) Of the above claim(s) is/are withdraw	wn from consideration.				
5) Claim(s) is/are allowed.					
6) Claim(s) <u>1-20</u> is/are rejected.					
7)⊠ Claim(s) <u>21 and 22</u> is/are objected to. 8)□ Claim(s) are subject to restriction and/o	r election requirement				
are subject to restriction and/o	r ciection requirement.				
Application Papers					
9) The specification is objected to by the Examine					
10)☐ The drawing(s) filed on is/are: a)☐ acc					
Applicant may not request that any objection to the					
Replacement drawing sheet(s) including the correct			• •		
11)☐ The oath or declaration is objected to by the Ex	caminer. Note the attach	ed Office Action of form PTO-152	,		
Priority under 35 U.S.C. § 119					
12) Acknowledgment is made of a claim for foreigna) All b) Some * c) None of:	priority under 35 U.S.C.	§ 119(a)-(d) or (f).			
 Certified copies of the priority documents 					
2. Certified copies of the priority documents			<i>.</i>		
3. Copies of the certified copies of the prior			/		
application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. Hoanganh Le Primary Examiner					
doc the attached detailed Office action for a list	or the certified copies no	The server	\mathcal{L}^{\vee}		
		Hoanganh Le			
Attachment(s)		Primary Examiner			
1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)		Summary (PTO-413) o(s)/Mail Date			

U.S. Patent and Trademark Office PTOL-326 (Rev. 1-04)

Paper No(s)/Mail Date _

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)

6) Other: _

5) Notice of Informal Patent Application (PTO-152)

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DETAILED ACTION

1. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

- 2. The following is a quotation of the second paragraph of 35 U.S.C. 112:
 - The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
- 3. Claims 4-13 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, "the distance V" has no antecedent basis.

In claims 5,6, and 9-12, "H' has no antecedent basis.

In claim 9, S=0.496 of what?

In claim 16, "the distance from the first row of elements" has no antecedent basis.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1-4,7,14-17, and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Fraser (the US Patent No. 6,384,516).

The Fraser reference teaches in figure 2 a direct radiating array (DRA), comprising: a plurality of elements 120, collectively defining a DRA main lobe nearest a DRA boresight and a set of grating lobes nearest the DRA main lobe, wherein each of the grating lobes in the set of grating lobes is angularly displaced from the main lobe by a grating lobe angle that varies asymmetrically about the DRA main lobe. The plurality of elements comprises: a first row of elements extending in a first direction; and a second row of elements, parallel to the first row of elements, the second row of elements offset from the first row of elements in the first direction by a stagger distance S. Each element of the first row of elements is spaced apart from an adjacent element in the first row of elements by a distance V; and each element of the second row of elements is spaced apart from an adjacent element of the second row of elements by the distance V and the second row of elements is spatially displaced from the first row of elements in a direction perpendicular to the first direction by a distance H. The stagger distance S divided by the distance V is between 0 and 1 (figure 2). The first direction is tilted from a North direction by a tilt angle between 0 and 90 degrees (figure 1b). The plurality of elements comprises: a first row of elements extending in a first direction; a second row of elements, parallel to the first tow of elements; a third row of elements, parallel to the first row of elements and the second tow of elements; wherein the second row of elements is disposed between the first row of elements and the third row of elements; and wherein the second row of elements is offset from the first row of

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elements in the first direction and the third row of elements is offset from the first row of elements in the first direction by a stagger distance S that varies as a non-linear function of a distance from the first row of elements extending in a second direction perpendicular to the first direction (figure 2). The distance from the first row of elements is D and the function is proportional to D (figure 2). The first direction is tilted from a North direction by a tilt angle (figure 1b).

Claim Rejections - 35 USC § 103

- 6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 7. Claims 5,6,8-13, and18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fraser (cited above).

The Fraser reference teaches every feature of the claimed invention, excluding S=0.45V,H=V=3.75 λ , the tilt angle being equal to 14 degrees, S=0.496V, H=V=3.89 λ , H/V=1, H/V= 1.525, or V=3.54 λ , or H=5.4 λ .

It would have been an obvious matter of design choice to provide Fraser with S=0.45V,H=V=3.75 λ , the tilt angle being equal to 14 degrees, S=0.496V, H=V=3.89 λ , H/V \neq 1, H/V= 1.525, or V=3.54 λ , or H=5.4 λ , since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art.

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Allowable Subject Matter

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- 8. Claims 21-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
- 9. The following is a statement of reasons for the indication of allowable subject matter: none of the cited art discloses the step of computing H, V and S from a relationship between the angular position of a plurality of grating lobes and the parameters H,V,S, and a wavelength λ of a signal emitted by the DRA comprises the steps of: defining a triangle formed by a centroid of a first element in the first row of elements, a centroid of a second element in the ftrst row of elements adjacent the first element, and a centroid of a third element in the second row of elements, the third element adjacent the first element in the first row of elements and the second element in the first row of elements; scaling the triangle by a scale factor $C = \lambda / (V.H)$; and determining the angular position of the grating lobes from the vertices of the scaled triangle.
- 10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HoangAnh T. Le whose telephone number is (571) 272-1823. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Hoanganh Le Primary Examiner